

# VGN-K31/K31B/K71B PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 PCG-K315B/K315M/K315S/K315Z PCG-K86P/K86SP

## SERVICE MANUAL

Ver. 8 2005D

### Revision History

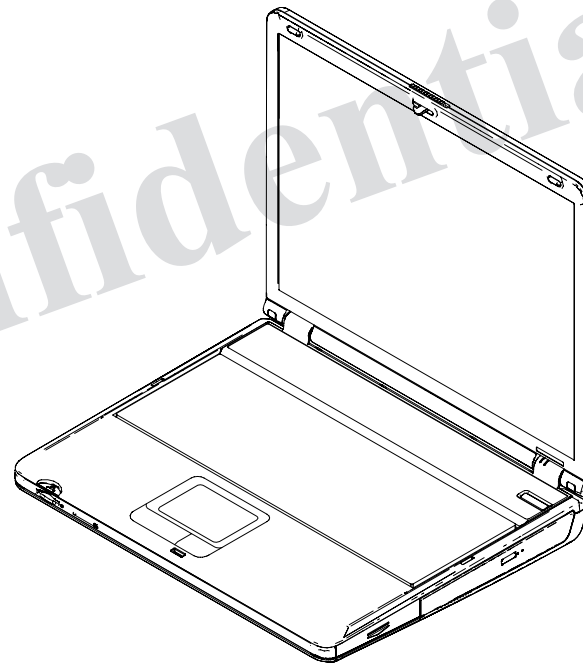
Area	Model	Lineup
Japanese	Japanese	VGN-K31 VGN-K31B VGN-K71B
American	US Canadian	PCG-K33 PCG-K33P PCG-K35 PCG-K37
		PCG-K33F PCG-K34FP PCG-K35F
	Latin	PCG-K33Q
	Quebec	PCG-K33Q
European	AEP/UK	PCG-K315B PCG-K315M PCG-K315S PCG-K315Z
Asian/Oceania/ South Africa	International	PCG-K86P PCG-K86SP

△ [MA]  
△ [MA]  
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· Design and specifications are subject to change without notice.

· 本機の仕様および外観は、改良のため予告なく変更することがありますが、ご了承ください。

PERSONAL COMPUTER

SONY®

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Caution Markings for Lithium/Ion Battery - The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

**CAUTION:** Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

**CAUTION:** The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F) or incinerate. Dispose of used battery promptly. Keep away from children.

**CAUTION:** Changing the back up battery.

- Overcharging, short circuiting, reverse charging, mutilation or incineration of the cells must be avoided to prevent one or more of the following occurrences; release of toxic materials, release of hydrogen and/or oxygen gas, rise in surface temperature.
- If a cell has leaked or vented, it should be replaced immediately while avoiding to touch it without any protection.

## Service and Inspection Precautions

### 1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

### 2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the  $\triangle$  mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

### 3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

### 4. Inspect after completing service

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

### 5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

### 6. When handling flexible print boards...

- The temperature of the soldering-iron tip should be about 270°C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

**LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  $\triangle$  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.**

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VGN-K31/K31B/K71B (J)  
PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)

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History of the changes is shown as the "Revision History" at the end of this data.

変更履歴は、“Revision History”として、本データ末に記載してあります。

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PCG-K86P/K86SP (AO)

# CHAPTER 1.

## SPECIFICATIONS

### 1-1. Specifications

	J			AM							
CPU	VGN-K71B M-P4 3.06GHz	VGN-K31B Cel 2.66GHz	VGN-K31 Cel 2.66GHz	PCG-K37 M-P4 3.20GHz	PCG-K35 M-P4 3.06GHz	PCG-K33 M-P4 3.06GHz	PCG-K33P M-P4 3.06GHz	PCG-K35F M-P4 3.06GHz	PCG-K33F Cel 2.93GHz	PCG-K34FP P4 2.80GHz	PCG-K33Q M-P4 3.06GHz
Graphic	RADEON IGP 345M	RADEON IGP 345M	RADEON IGP 345M	RADEON IGP 345M	RADEON IGP 345M	RADEON IGP 345M	RADEON IGP 345M	RADEON IGP 345M	RADEON IGP 345M	RADEON IGP 345M	RADEON IGP 345M
LCD	15.4/WXGA (Clear Black)	15.4/WXGA (Clear Black)	15.4/WXGA (Clear Black)	15.4/WXGA (High Brightness)	15.4/WXGA (High Brightness)	15.4/WXGA (High Brightness)	15.4/WXGA (High Brightness)	15.4/WXGA (High Brightness)	15.4/WXGA (High Brightness)	15.4/WXGA (High Brightness)	15.4/WXGA (High Brightness)
HDD	80GB	60GB	60GB	80GB	80GB	60GB	60GB	40GB	40GB	40GB	60GB
MEMORY(Slot1)	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	512MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266
MEMORY(Slot2)	-	-	-	512MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266
QUANTITY[STANDARD/MAX]	256MB/1GB	256MB/1GB	256MB/1GB	1GB/1GB	512MB/1GB	512MB/1GB	512MB/1GB	512MB/1GB	512MB/1GB	512MB/1GB	512MB/1GB
AVAILABLE SLOT(STANDARD)	1	1	1	1	1	1	1	1	1	1	1
OPT-DRIVE	SuperMulti	SuperMulti	SuperMulti	DVD+-RW/+DL	DVD+-RW/+DL	Combo	Combo	DVD+-RW	Combo	Combo	Combo
AC adaptor	AC19V9	AC19V9	AC19V9	AC19V9	AC19V9	AC19V9	AC19V9	AC19V9	AC19V9	AC19V9	AC19V9
Battery	BP2NY	BP2NY	BP2NY	BP2NY	BP2NY	BP2NY	BP2NY	BP2NY	BP2NY	BP2NY	BP2NY
internal W-LAN	x	x	x	○	○	○	○	○	○	○	○
OS	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home	XP Pro	XP Home	XP Home	XP Pro	XP Home

	EU				AO	
CPU	PCG-K315Z M-P4 3.06GHz Mobility (TM)	PCG-K315S M-P4 3.06GHz Mobility (TM)	PCG-K315B Cel 2.93GHz RADEON IGP 345M	PCG-K315M M-P4 3.06GHz RADEON IGP 345M	PCG-K86P M-P4 3.20GHz Mobility (TM)	PCG-K86SP M-P4 3.20GHz Mobility (TM)
Graphic	Radeon (TM) 9200	Radeon (TM) 9200			Radeon (TM) 9200	Radeon (TM) 9200
LCD	15.4/WXGA (High Brightness)	15.4/WXGA (High Brightness)	15.4/WXGA (High Brightness)	15.4/WXGA (High Brightness)	15.4/WXGA (High Brightness)	15.4/WXGA (High Brightness)
HDD	60GB	40GB	40GB	40GB	60GB	60GB
MEMORY(Slot1)	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266
MEMORY(Slot2)	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266	256MB/DDR/266
QUANTITY[STANDARD/MAX]	512MB/1GB	512MB/1GB	512MB/1GB	512MB/1GB	512MB/1GB	512MB/1GB
AVAILABLE SLOT(STANDARD)	1	1	1	1	1	1
OPT-DRIVE	DVD+-RW/+DL	DVD+-RW	DVD+-RW	DVD+-RW	DVD+-RW/+DL	DVD+-RW/+DL
AC adaptor	AC19V9	AC19V9	AC19V9	AC19V9	AC19V9	AC19V9
Battery	BP2NY	BP2NY	BP2NY	BP2NY	BP2NY	BP2NY
internal W-LAN	○	x	x	x	○	○
OS	XP Home	XP Home	XP Home	XP Home	XP Pro	XP Pro

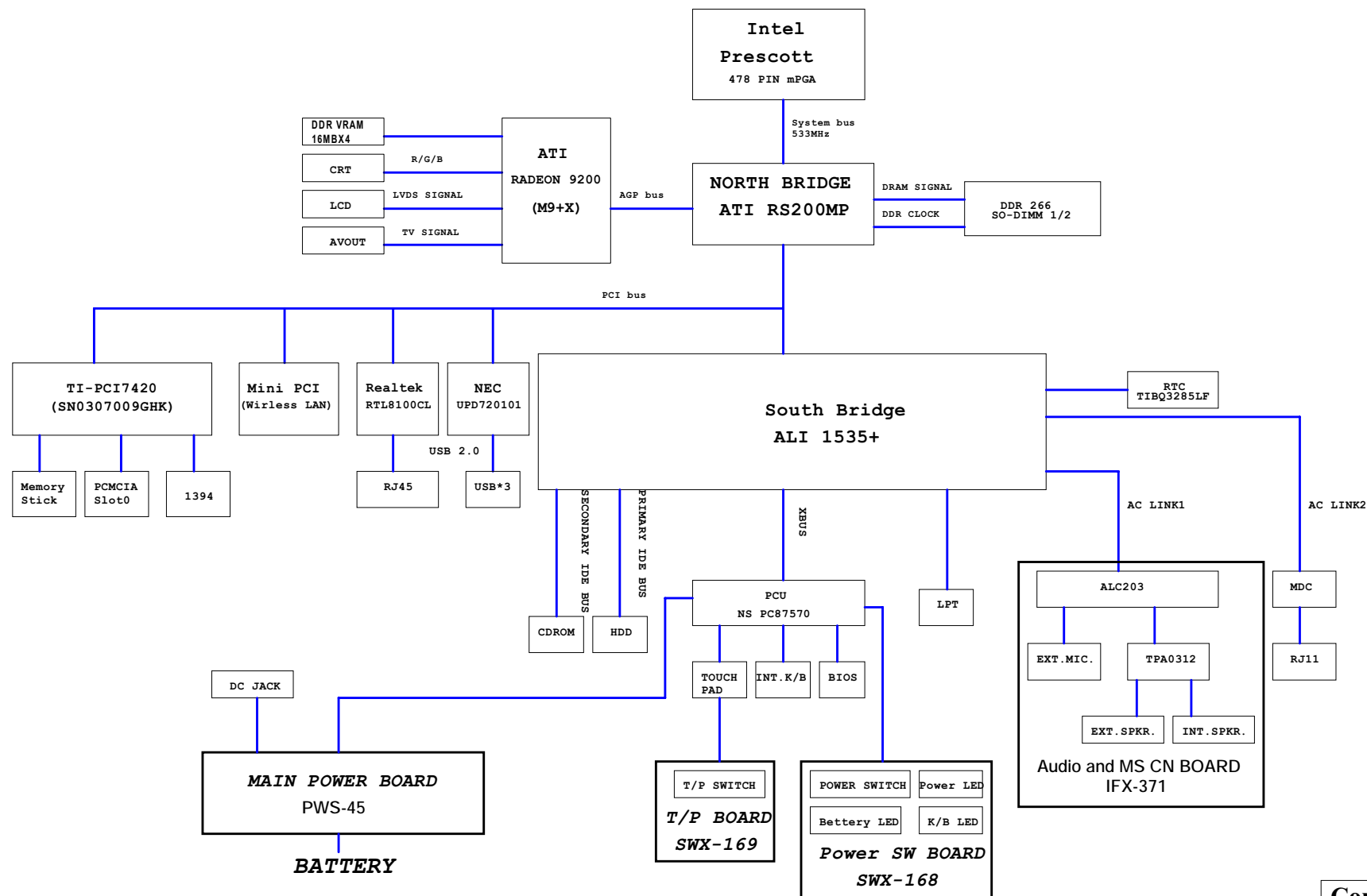
- The trademarks of registered trademarks of above table, refer to page 2.
- 本表中の商標・登録商標については、2ページをご参照ください。

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PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)

# CHAPTER 2.

## BLOCK DIAGRAM

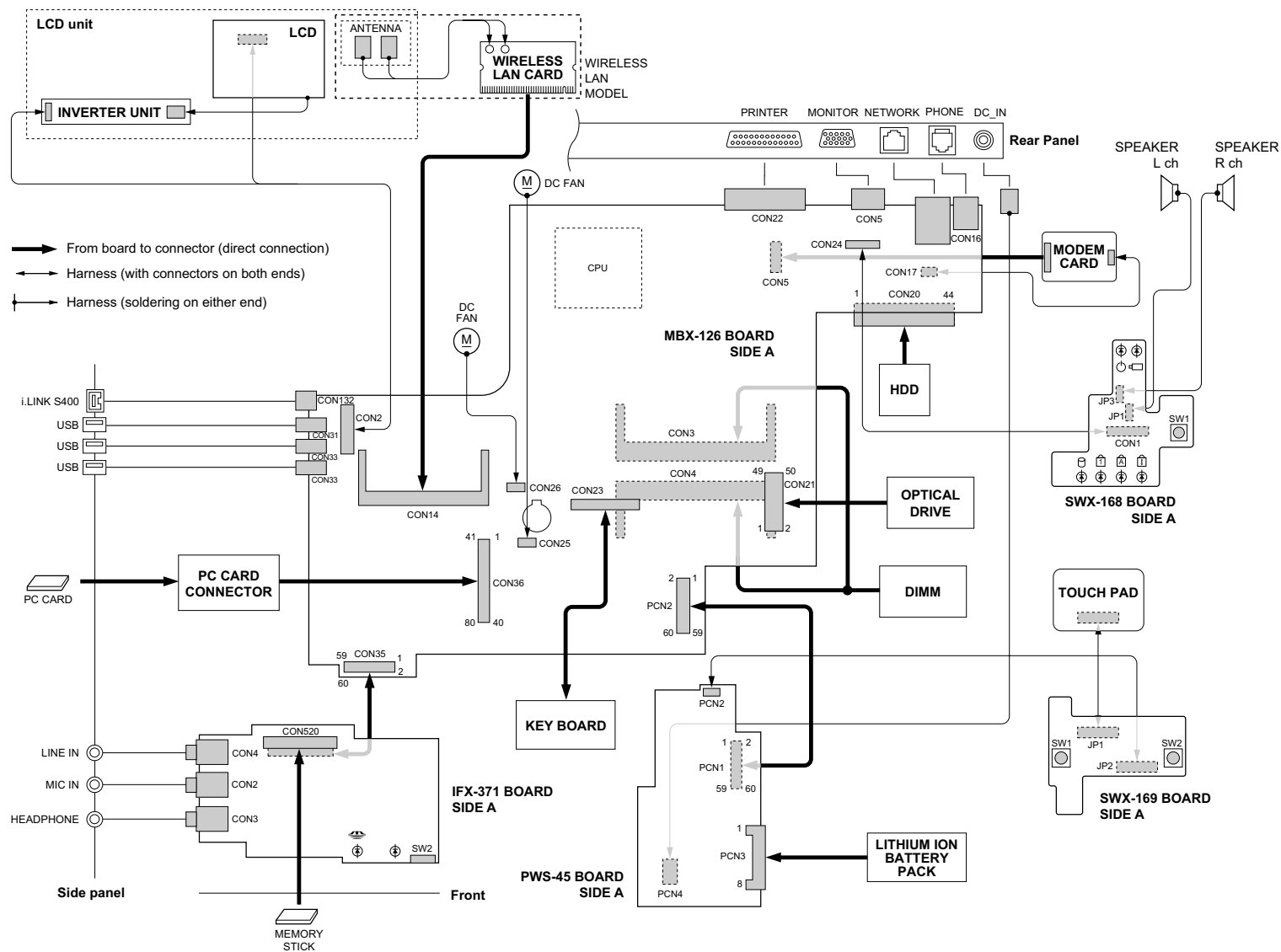


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# CHAPTER 3.

## FRAME HARNESS DIAGRAM



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PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)

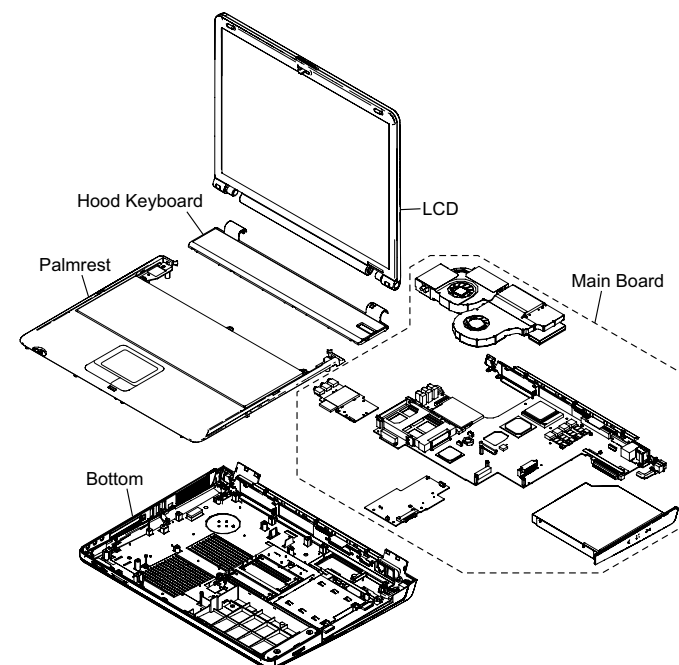
# CHAPTER 4.

## EXPLODED VIEWS AND PARTS LIST

• The parts list is compiled by blocks of a palmrest and bottom etc.  
The sections of the parts list are different depending on the model.  
Please refer to list of contents shown in the below.

• 分解図と部品表は、パームレスト、ボトムなどのブロックごとに分かれていま  
す。機種によって部品表のセクションが異なりますので、詳細は右下の一覧表  
を参照してください。

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<b>Accessory</b>	
A-1 .....	4-16
DIP Switch .....	4-17



### NOTE:

- Items marked "" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- When two or more parts are shown, use the part described first as the main part.
- The parts marked "\$" are the High Value Modules (HVM).
- The parts marked "#" are the parts on which barcode label is attached. For the barcode label, refer to CHAPTER 5.
- The parts marked "&" are the "Customer Replaceable Parts (CRP)" that can be replaced by Field Customer Support. Especially the parts with the "<&" mark require the special attention to use them. Here fore, check first whether the desired part is one of the targetted parts of the Customer Replaceable Parts (CRP), or the non-targetted parts by referring to the exploded view.

### 【使用上の注意】

- \*印の部品は常備在庫しておりません。
- 図面番号のない部品は供給しません。
- 併記部品の場合、上部記載部品をメイン部品として使用してください。
- 部品名称の前に\$印のついた部品は、High Value Module (HVM) です。
- 商品名称の前に#印のついた部品は、バーコードラベル貼付部品です。バーコードラベルについてはCHAPTER 5を参照してください。
- 部品名称の前に&印のついた部品は、お客様窓口などでも交換可能なCustomer Replaceable Part (CRP) です。
- 特に<&のついた部品は、使い分けが必要な部品ですので、分解図でCustomer Replaceable Parts対象部品が、対象外部品かを必ず御確認ください。

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

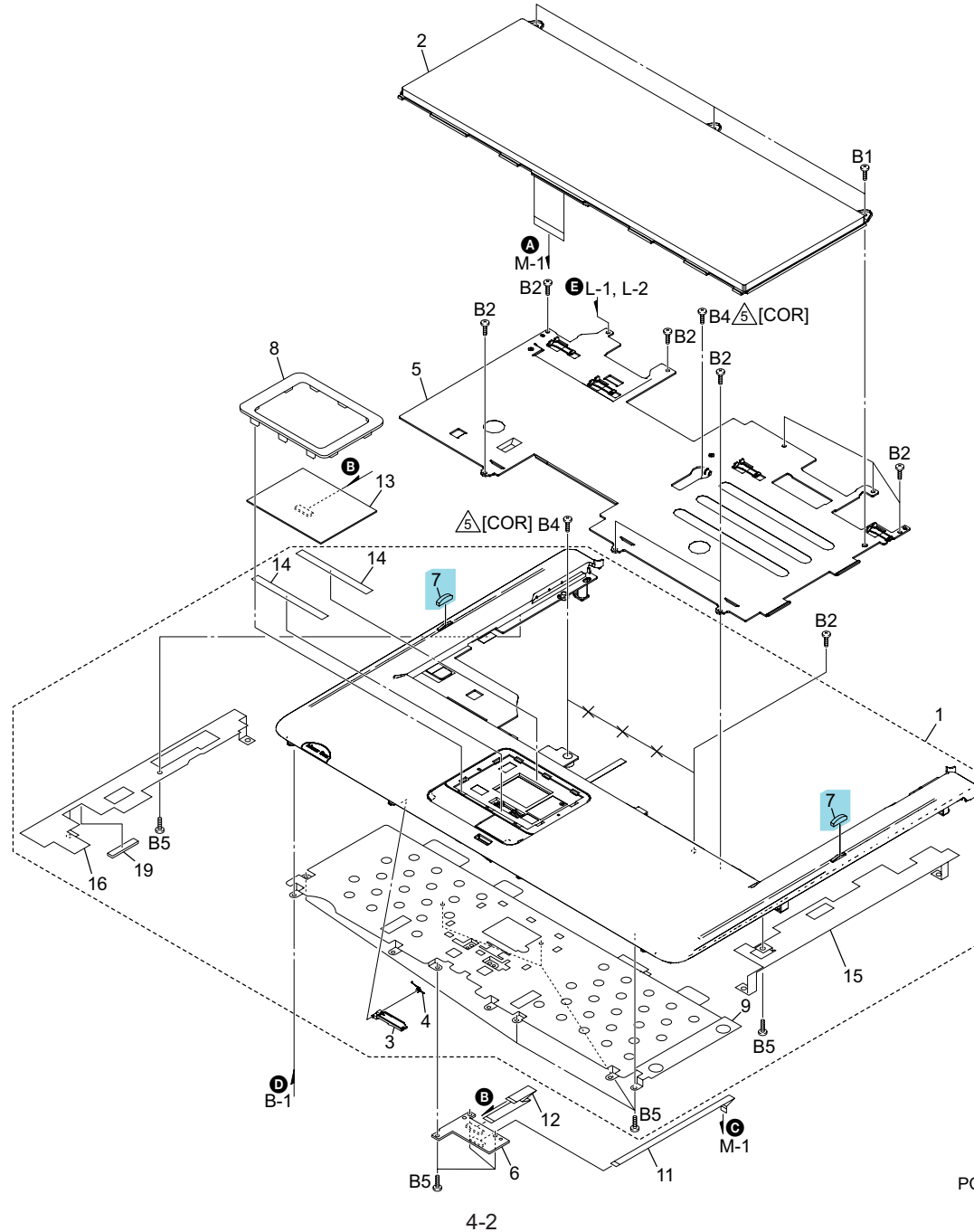
△印の部品、または△印付きの点線で囲まれた部品は、安全性を維持するために重要な部品です。従って交換時は、必ず指定の部品を使用して下さい。

		Palmrest	Main Board	Bottom	Hood Keyboard	LCD	Accessory	
△ [MA]	J	K71B	P-1	M-1	B-1	H-1	L-2	A-1
△ [MA]		K31B	P-1	M-1	B-1	H-1	L-2	A-1
△ [MA]		K31	P-1	M-1	B-1	H-1	L-2	A-1
△ [MA] △ [MA] △ [MA] △ [MA] △ [MA] △ [MA]	AM	K37	P-1	M-1	B-1	H-1	L-1	A-1
		K35	P-1	M-1	B-1	H-1	L-1	A-1
		K33	P-1	M-1	B-1	H-1	L-1	A-1
		K33P	P-1	M-1	B-1	H-1	L-1	A-1
		K35F	P-1	M-1	B-1	H-1	L-3	A-1
		K33F	P-1	M-1	B-1	H-1	L-3	A-1
		K34FP	P-1	M-1	B-1	H-1	L-3	A-1
		K33Q	P-1	M-1	B-1	H-1	L-3	A-1
△ [MA] △ [MA]	EU	K315Z	P-1	M-1	B-1	H-1	L-1	A-1
		K315S	P-1	M-1	B-1	H-1	L-1	A-1
		K315B	P-1	M-1	B-1	H-1	L-1	A-1
		K315M	P-1	M-1	B-1	H-1	L-1	A-1
△ [MA] △ [MA]	AO	K86P	P-1	M-1	B-1	H-1	L-1	A-1
		K86SP	P-1	M-1	B-1	H-1	L-1	A-1

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VGN-K31/K31B/K71B (J)  
PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)

# P-1. Palmrest



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VGN-K31/K31B/K71B (J)  
 PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
 PCG-K315B/K315M/K315S/K315Z (EU)  
 PCG-K86P/K86SP (AO)



## P-1. Palmrest

Ref. No.	Part No.	Description
1	X-2023-730-1	HOUSING PALMREST ASSY JE51
3	4-681-301-01	LATCH DETECTOR
4	4-676-233-01	SPRING LATCH DETECTOR
* 5	2-178-998-01	BRACKET KEYBOARD
6	A-8068-709-A	COMPLETE PWB SWX-169
7	4-681-295-02	& CUSHION PALMREST ESCUTCHEON TOUCHPAD BRACKET TOUCHPAD
8	4-681-296-01	
9	2-179-005-01	
11	1-829-355-11	
12	1-829-140-11	
13	1-796-319-51	PAD, TOUCH
14	2-179-580-01	TAPE TP
15	2-179-001-01	BRKT PALMREST R
16	2-179-002-01	BRKT PALMREST L
19	2-349-107-01	GASKET USB JE5
B1	4-216-272-01	SCREW (M2), +
B2	4-641-726-12	SCREW (M2), SPECIAL HEAD
B4	4-641-726-41	SCREW (M2), SPECIAL HEAD
B5	4-665-205-01	SPECIAL FLAT HEAD (EG GRIP), M2

			J		AM								EU			AO			
			K71B	K31B	K31	K37	K35	K33	K33P	K35F	K34FP	K33Q	K315Z	K315S	K315B	K315M	K86P	K86SP	
Ref. No. Part No.			Description																
△ (MA)	2	1-478-597-12	KEYBOARD UNIT(US)																
		1-478-597-32	KEYBOARD UNIT(TH)																
△ (MA)		1-478-597-42	KEYBOARD UNIT(JP)																
		1-478-598-12	(UK Dutch)...KEYBOARD UNIT(GB)																
		1-478-598-23	(German)...KEYBOARD UNIT(DE)																
		1-478-598-32	(Swiss)...KEYBOARD UNIT(CH)																
		1-478-598-42	(French,Belgium)...KEYBOARD UNIT(FR)																
		1-478-598-53	(Italian)...KEYBOARD UNIT(IT)																
		1-478-598-62	(Spanish)...KEYBOARD UNIT(ES)																
△ (MA)		1-478-598-72	KEYBOARD UNIT(LA)																
		1-478-598-82	KEYBOARD UNIT(CA)																
			△ (MA)	△ (MA)	△ (MA)				△ (MA)	△ (MA)	△ (MA)	△ (MA)				△ (MA)	△ (MA)		

• This parts list contains two different types of parts.

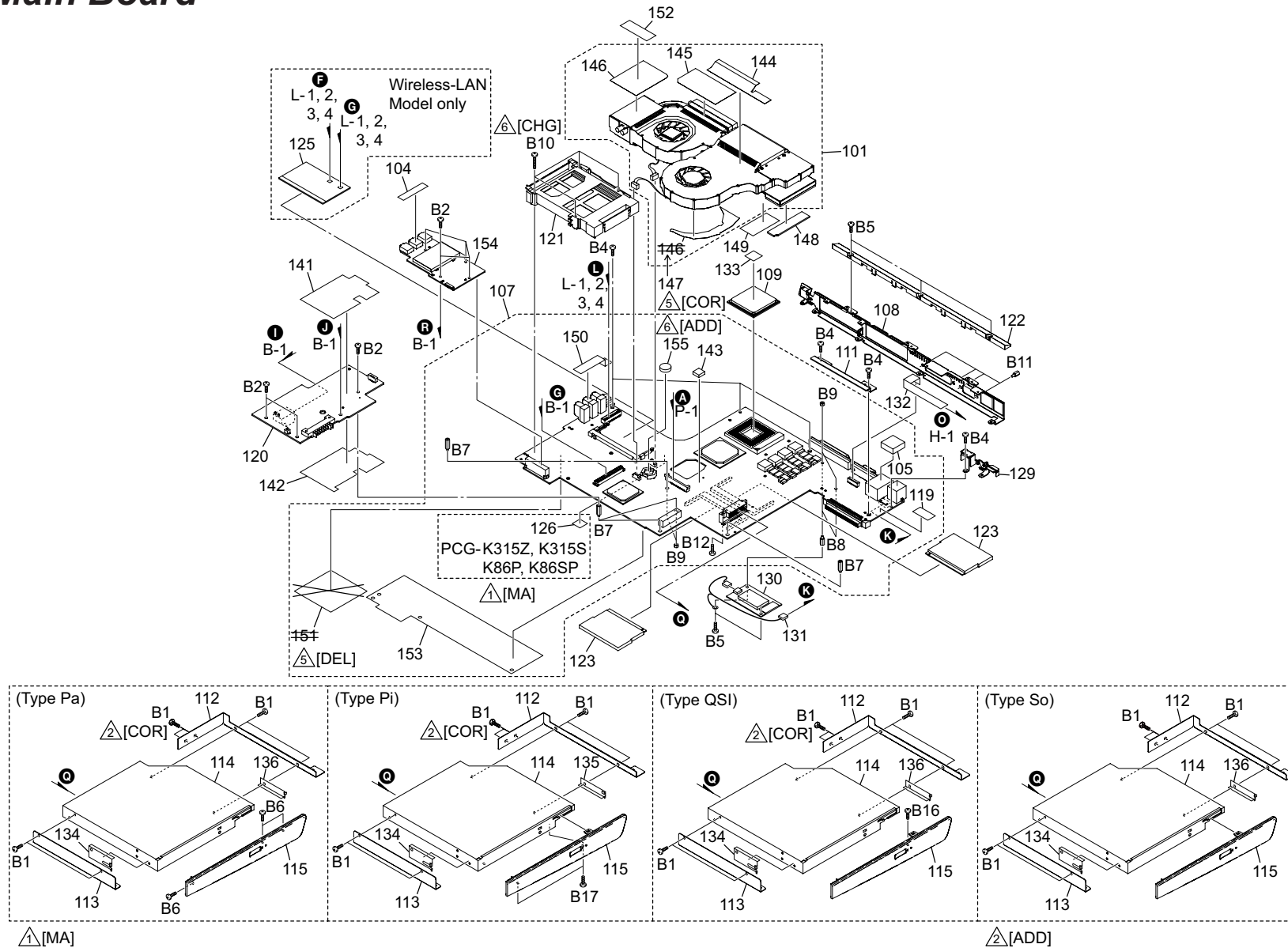
- This parts list contains two different types of parts.  
The first type is the parts that are common to all models.  
The other type is the parts that are different depending on each model.

- この部品表は、機種共通の部品と、機種によって使い分けが必要な部品に分かれています。

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VGN-K31/K31B/K71B (J)  
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PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)

# M-1.Main Board



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VGN-K31/K31B/K71B (J)  
 PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
 PCG-K315B/K315M/K315S/K315Z (EU)  
 PCG-K86P/K86SP (AO)

# M-1.Main Board



1-818-420-21 PC CARD CONNECTOR

Ref. No.	Part No.	Description
101	A-1086-462-A	JE5 COOLING UNIT (S)
104	2-349-106-01	CUPPER TAPE AUDIO JE5
105	2-022-439-01	GASKET LAN
108	X-2023-732-1	I/O BRACKET ASSY
* 111	4-674-030-01	GUIDE DRIVE
* 112	2-159-394-01	BRACKET DRIVE R JE2
* 113	2-179-006-01	BRACKET DRIVE L JE2
119	-	KAPTON TAPE
120	A-1071-984-A	COMPLETE PWB PWS-45
121	<del>1-818-420-11</del>	<del>CONNECTOR, PC CARD</del>
122	4-681-305-01	COVER HOOD
* 129	2-179-009-01	BRACKET DC JACK
130	1-761-606-14	CARD, MODEM
131	1-963-379-11	HARNESS 2PIN (JE5)
132	1-830-249-11	CABLE,FLEXIBLE FLAT S-M JE5
133	2-549-332-01	PAD CPU JE5
134	4-670-244-01	SPRING DRIVE R
141	2-189-268-01	INSULATOR PWS TOP
142	2-189-269-01	INSULATOR PWS BOTTOM
143	2-189-270-01	CUSHION FAN 1
144	2-549-328-01	INSULATOR FIN1 JE5
145	2-549-329-01	INSULATOR FIN2 JE5
146	2-549-330-01	INSULATOR FIN3 JE5
147	2-549-331-01	INSULATOR FAN1 JE5
148	2-549-333-01	PAD POWER JE5
149	2-549-334-01	PAD POWER MOS JE5
150	2-349-105-01	CUPPER TAPE USB JE5
<del>151</del>	<del>2-549-327-01</del>	<del>TAPE PCU JE5</del>
152	-	KAPTON TAPE
153	2-581-064-01	BOTTOM SHIELDING
154	A-1071-988-A	COMPLETE PWB IFX-371 (WL)
155	1-756-148-11	SECONDARY, BATTERY LITHIUM
B1	4-216-272-01	SCREW (M2), +
B2	4-641-726-12	SCREW (M2), SPECIAL HEAD
B4	4-641-726-41	SCREW (M2), SPECIAL HEAD
B5	4-665-205-01	SPECIAL FLAT HEAD (EG GRIP), M2
B6	4-645-177-01	SCREW (M1.7X3.5)
B7	2-549-335-01	STAND M2* 3.5-10.4
B8	4-651-989-41	SPACER (MBX)
B9	7-622-205-05	NUT M2 TYPE2
B10	4-644-637-91	GRIP, M2 EG
B11	4-635-966-01	SCREW (HEX)
B12	7-621-772-50	SCREW +B 2X10
B16	4-679-805-01	SCREW (B1.7), TAPPING
B17	4-679-805-11	SCREW (B1.7), TAPPING



8-457-597-10 \$ # DRIVE, DVD DW-D56A-VN (SO)



X-2024-583-1 \$ # ASSY SO D56A BEZEL

Ref. No.	Part No.	Description	K71B	J	K31B	K31	K37	K35	K33	AM	K33P	K35F	K33F	K34FP	K33Q	K315Z	EU	K315B	K315M	AO	K86P	K86SP
107	A-1071-982-A	COMPLETE PWB MBX-126 INT JE51																				
	A-1071-983-A	COMPLETE PWB MBX-126 EXT JE51																				
109	6-707-623-01	IC RK80546HE0831MSL7NA(3.06GHz)																				
	6-707-622-01	IC RK80546HE0881MSL7NB(3.20GHz)																				
	6-707-109-01	IC RK80546RE077256SL7Q9(2.93GHz)																				
	6-707-107-01	IC RK80546RE067256SL7DL(2.66GHz)																				
	6-707-659-01	IC RK80546PE0721MSL7PK																				
114	1-797-110-11	DVD+RW(UJ-830BSX1-A)(Pa)																				
	1-797-051-11	W-DVD (DVR-K14VA)(Pi)																				
	1-797-056-11	W-DVD (DVR-K14VAS)(Pi)																				
	1-796-941-11	COMBO DRIVE (SBW-242C)(QSI)																				
115	X-2024-580-1	ASSY KME UJ830 BEZE																				
	X-2024-581-1	ASSY PIO K14VA BEZEL GP																				
	X-2024-582-1	ASSY PIO K14VAS BEZEL GP																				
	X-2024-615-1	ASSY QSI 242C BEZEL																				
123	6-705-096-01	IC HYS64D64020HBDL-6-C(512MB)																				
	6-707-029-01	IC HYS64D32020HDL-6-C(256MB)																				
	6-705-094-01	IC M470L3224FT0-CB3(256MB)																				
125	1-789-014-31	CARD, WIRELESS LAN																				
	1-789-014-11	CARD, WIRELESS LAN																				
126	2-022-443-01	VGA HEATSINK																				
135	4-682-593-01	SPRING DRIVE R																				
136	4-677-259-01	SPRING DRIVE L																				



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The other type is the parts that are different depending on each model.

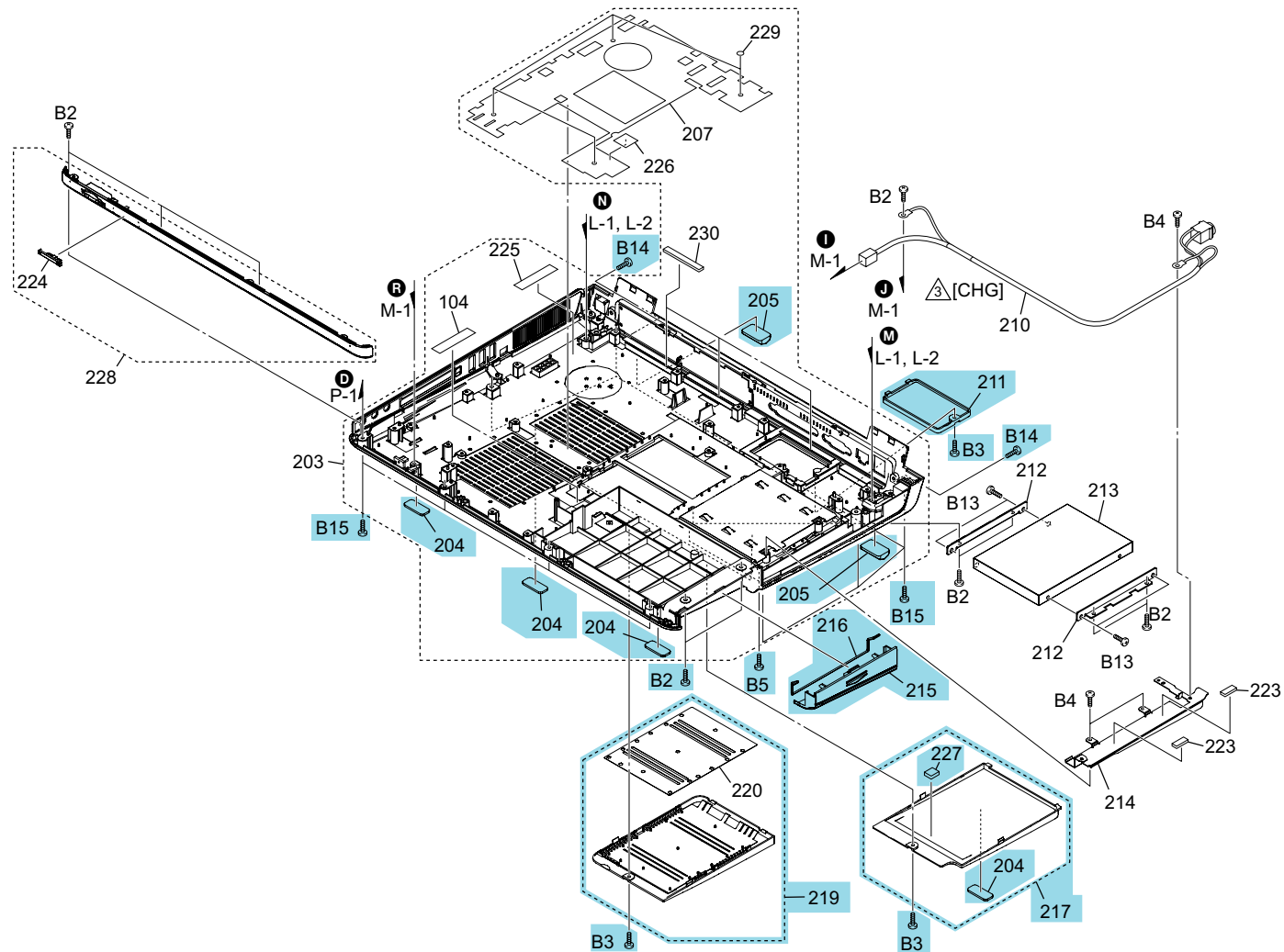
- この部品表は、機種共通の部品と、機種によって使い分けが必要な部品に分かれています。

- When change the CPU (ref. 209), refer to "Replacing the CPU" in CHAPTER 5.
- CPU (Ref. 209) を交換する際には、CHAPTER 5 の「Replacing the CPU」をご参照下さい。

**Confidential**

VGN-K31/K31B/K71B (J)  
PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)

# **B-1. Bottom**



**Confidential**

VGN-K31/K31B/K71B (J)  
 PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
 PCG-K315B/K315M/K315S/K315Z (EU)  
 PCG-K86P/K86SP (AO)

## B-1. Bottom

Ref. No.	Part No.	Description
104	2-349-106-01	CUPPER TAPE AUDIO JE5
203	X-2023-731-1	HOUSING BOTTOM ASSY JE51
204	2-050-614-01	& FOOT FRONT
205	4-674-041-01	& FOOT REAR
207	2-179-007-01	INSULATOR HEATSINK BTM
210	<del>1-962-775-11</del>	HARNESS (WITH DC JACK, 2P) ←
211	4-681-314-01	& COVER MODEM
* 212	4-674-033-01	BRACKET HDD
* 214	2-179-008-01	BRKT HOLDER PW CABLE
215	4-681-318-01	& DOOR BATTERY
216	4-681-337-01	& BATTERY DOOR LINK
217	<del>X-2648-464-1</del>	& COVER HDD ASSY ←
219	X-2022-037-1	& COVER MEMORY ASSY
220	4-682-977-01	INSULATOR MEMORY
223	2-176-882-01	GASKET ODD JE3
225	2-189-273-01	CUSHION FAN 2
226	2-549-326-01	ACETATE TAPE BLACK JE1
227	2-022-449-01	& SPONGE COVER HDD
229	2-549-325-01	INSULATOR HEATSINK BTM2 JE5
230	2-022-444-01	GASKET HOUSING BTM1
B1	4-216-272-01	SCREW (M2), +
B2	4-641-726-12	<&> SCREW (M2), SPECIAL HEAD
B3	4-672-834-31	& SCREW, +B EG GRIP
B4	4-641-726-41	SCREW (M2), SPECIAL HEAD
B5	4-665-205-01	& SPECIAL FLAT HEAD (EG GRIP), M2
B13	4-673-018-02	SCREW SPECIAL HEAD
B14	4-673-655-01	& SCREW +B
B15	4-644-637-01	& GRIP, M2 EG

△ [CHG]  
1-963-704-11

HARNESS (WITH DC JACK)

△ [MA]  
△ [MA]

Ref. No.	Part No.	Description	K71B	K31B	K31	K37	K35	K33	AM	K33P	K35F	K34FP	K33Q	K315Z	EU	K315S	K315B	K315M	AO	K86P	K86SP
213	A-1072-482-A	\$ # HDD (MK8025GAS-80GB) (S)	•			•	•	•					•	•						•	•
	A-1065-523-A	\$ # ASSY HDD 60GB (-21) (H.40) (S)		•			•	•					•	•						•	•
	A-8117-201-A	\$ # HDD (MHT2060AT-60GB) (S)																			
	A-1083-186-A	\$ # HDD (40GB HTS424040) (S)																			
	A-1062-141-A	\$ # HDD (MHT2040AT-40GB-A) (S)																			
224	4-681-362-01	SWITCH WIRELESS LAN				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
228	X-2023-743-1	ESCUTCHEON FRONT ASSY(WL)				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	X-2023-733-1	ESCUTCHEON FRONT ASSY	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

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The other type is the parts that are different depending on each model.

- この部品表は、機種共通の部品と、機種によって使い分けが必要な部品に分かれています。

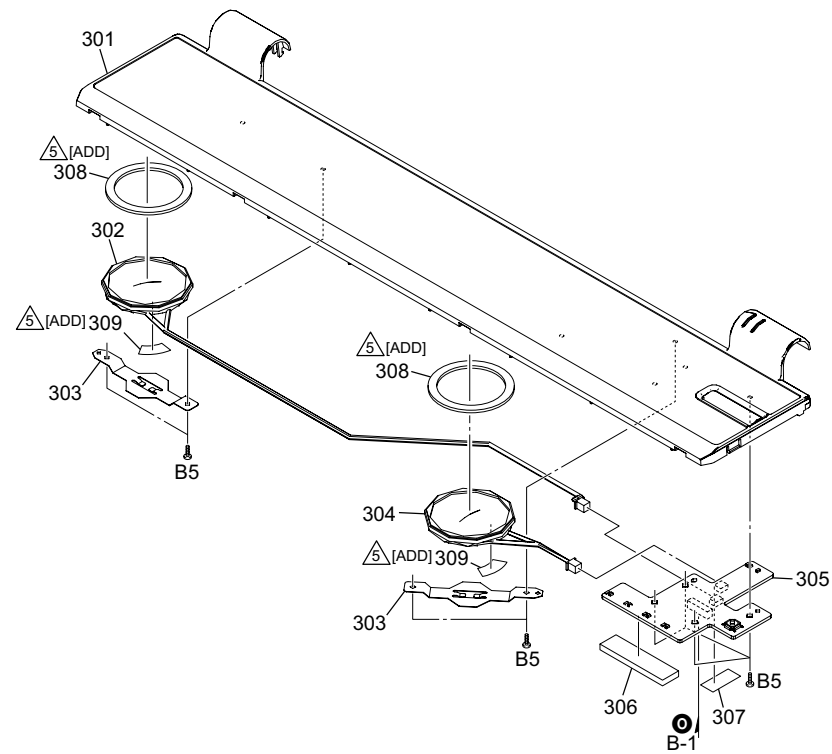
△ [COR]  
X-2048-464-1

& COVER HDD ASSY JE5

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VGN-K31/K31B/K71B (J)  
PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)



# H-1. Hood Keyboard



**Confidential**

VGN-K31/K31B/K71B (J)  
 PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
 PCG-K315B/K315M/K315S/K315Z (EU)  
 PCG-K86P/K86SP (AO)

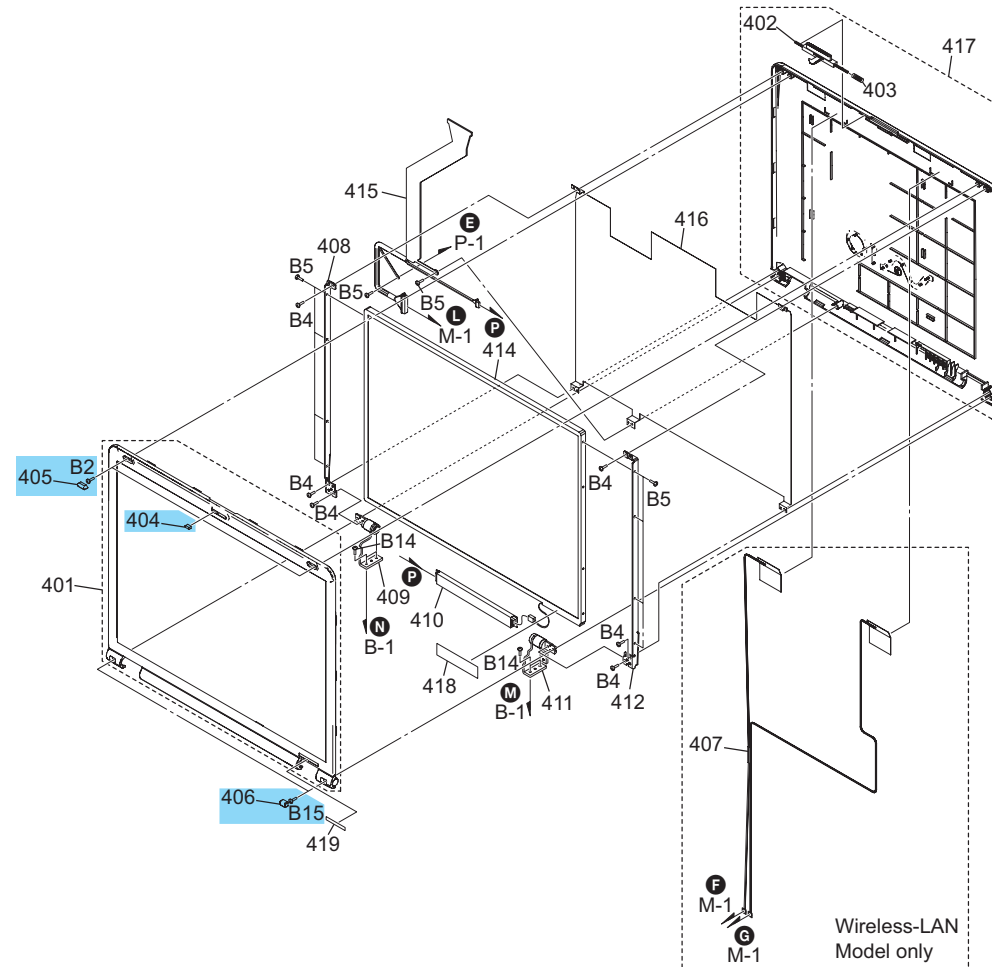
## H-1. Hood Keyboard

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
301	X-2022-035-1	HOOD KB ASSY
302	1-825-825-21	SPEAKER (3.2CM)
* 303	4-681-308-01	BRACKET SPK
304	1-825-825-11	SPEAKER (3.2CM)
305	A-8068-706-A	COMPLETE PWB PWB SWX-168
		\$
306	2-022-447-01	GASKET PW BOARD
307	-	KAPTON TAPE
 [ADD] 308	2-179-699-01	CUSHION SPEAKER
 [ADD] 309	2-189-971-01	GUARD SPEAKER
B5	4-665-205-01	SPECIAL FLAT HEAD (EG GRIP), M2

**Confidential**

VGN-K31/K31B/K71B (J)  
 PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
 PCG-K315B/K315M/K315S/K315Z (EU)  
 PCG-K86P/K86SP (AO)

***L-1. LCD 15.4-inch WXGA (High Brightness)  
– Made by QDI –***



**Confidential**

VGN-K31/K31B/K71B (J)  
PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)



# L-1. LCD 15.4-inch WXGA (High Brightness) – Made by QDI –

Ref. No.	Part No.	Description
401	X-2022-041-1	BEZEL DISPLAY ASSY
402	2-050-591-01	BUTTON LATCH LCD
403	2-176-929-01	SPRING LATCH LCD JE3
404	4-681-353-01	& CUSHION LATCH
405	4-681-354-01	& CUSHION LCD
406	4-681-355-01	& CUSHION HINGE
* 408	2-067-071-01	BRACKET LCD L
409	2-179-000-01	HINGE L
410	1-478-805-12	INVERTER UNIT
	1-478-976-11	INVERTER UNIT
411	2-178-999-01	HINGE R
* 412	2-067-070-01	BRACKET LCD R
414	A-1070-777-A	\$ # ASSY LCD 15WXGA(QDI)(S)
415	1-963-380-11	HARNESS, LCD (JE5)
416	2-050-612-01	LCD SHIELDING
417	X-2022-040-1	HOUSING DISPLAY ASSY
418	-	KAPTON TAPE
B2	4-641-726-12	& SCREW (M2), SPECIAL HEAD
B4	4-641-726-41	SCREW (M2), SPECIAL HEAD
B5	4-665-205-01	SPECIAL FLAT HEAD (EG GRIP), M2
B14	4-673-655-01	SCREW +B
B15	4-644-637-01	& GRIP, M2 EG

Ref. No.	Part No.	Description	AM				EU				AO	
			K37	K35	K33	K33P	K315Z	K315S	K315B	K315M	K86P	K86SP
407	1-754-326-11	DUAL BAND ANTENNA (HBLACK)	●	●	●	●	●				●	●
419	2-345-245-01	ID LABEL (U)	●									
	2-345-245-11	ID LABEL (U)		●								
	2-345-245-21	ID LABEL (U)			●							
	2-345-245-31	ID LABEL (U)				●						
	2-345-246-01	ID LABEL (E)					●					
	2-345-246-11	ID LABEL (E)						●				
	2-345-246-21	ID LABEL (E)							●			
	2-345-246-31	ID LABEL (E)								●		
	2-345-248-01	ID LABEL (I)									●	
	2-345-248-11	ID LABEL (I)										●

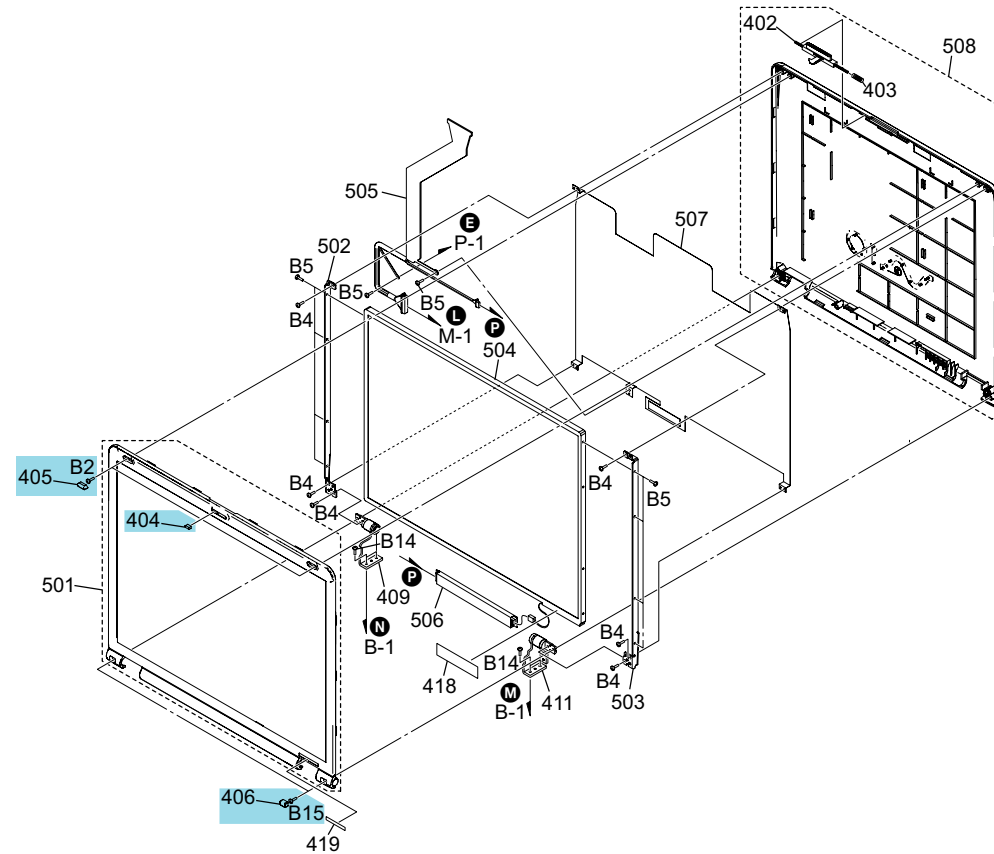
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**Confidential**

VGN-K31/K31B/K71B (J)  
PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)

**L-2. LCD 15.4-inch WXGA (Clear Black)**  
**– Made by HI –**



## L-2. LCD 15.4-inch WXGA (Clear Black)

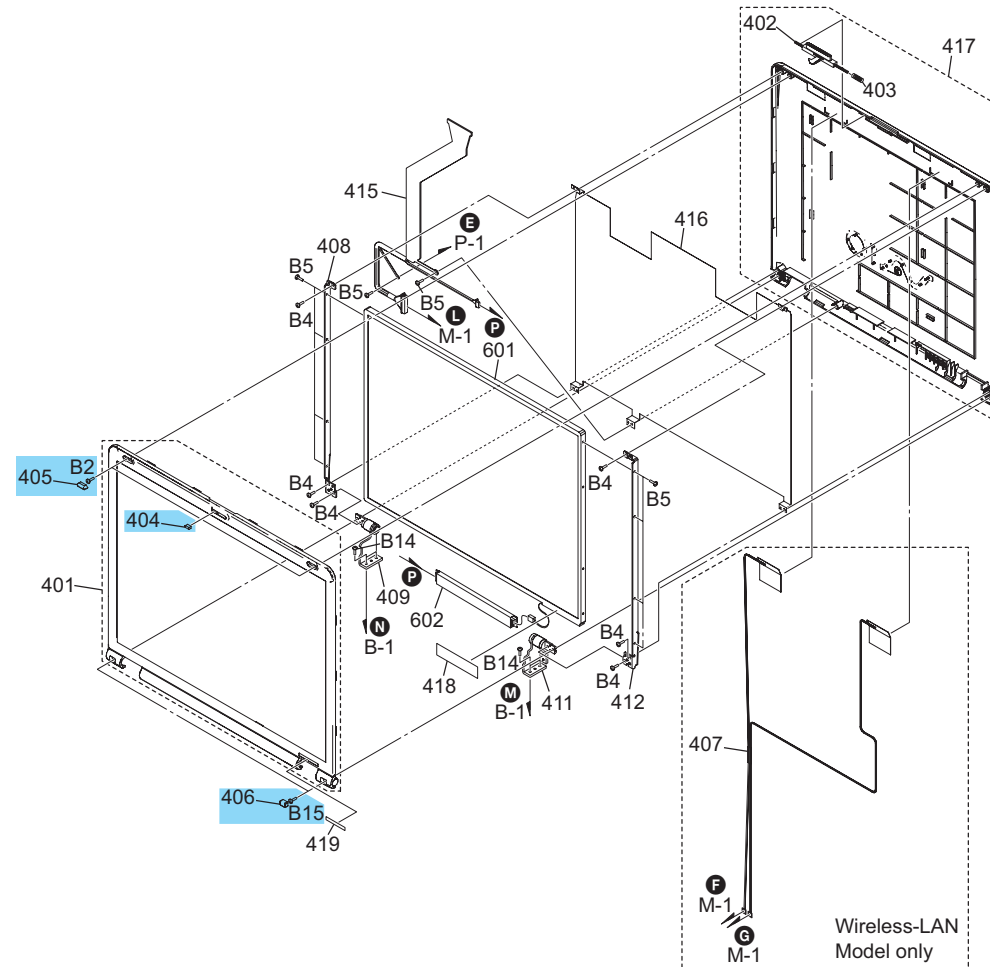
### – Made by HI –

Ref. No.	Part No.	Description
402	2-050-591-01	BUTTON LATCH LCD
403	2-176-929-01	SPRING LATCH LCD JE3
404	4-681-353-01	& CUSHION LATCH
405	4-681-354-01	& CUSHION LCD
406	4-681-355-01	& CUSHION HINGE
409	2-179-000-01	HINGE L
411	2-178-999-01	HINGE R
418	-	KAPTON TAPE
501	X-2023-729-1	BEZEL DISPLAY ASSY(HC)
502	2-349-104-01	BRACKET LCD L(HC)
503	2-349-103-01	BRACKET LCD R(HC)
504	A-1072-741-A	ASSY LCD(15.4 WXGA)(H)(S)
505	1-963-443-11	HARNESS, LCD (JE5-HHC)
506	1-478-629-21	INVERTER UNIT(2CFL-17W)
	1-478-040-11	INVERTER UNIT
507	2-188-209-01	LCD SHIELDING
508	X-2023-728-1	HOUSING DISPLAY ASSY(HC)
B2	4-641-726-12	& SCREW (M2), SPECIAL HEAD
B4	4-641-726-41	SCREW (M2), SPECIAL HEAD
B5	4-665-205-01	SPECIAL FLAT HEAD (EG GRIP), M2
B14	4-673-655-01	SCREW +B
B15	4-644-637-01	& GRIP, M2 EG

			J		
Ref. No.	Part No.	Description	K71B	K31B	K31
419	2-345-244-01	ID LABEL (J)	●		
	2-345-244-11	ID LABEL (J)		●	
	2-345-244-21	ID LABEL (J)			●

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# **L-3. LCD 15.4-inch WXGA (High Brightness)** **– Made by HI –**



1 [MA]

**Confidential**

VGN-K31/K31B/K71B (J)  
 PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
 PCG-K315B/K315M/K315S/K315Z (EU)  
 PCG-K86P/K86SP (AO)

## L-3. LCD 15.4-inch WXGA (High Brightness)

### – Made by HI –

Ref. No.	Part No.	Description
401	X-2022-041-1	BEZEL DISPLAY ASSY
402	2-050-591-01	BUTTON LATCH LCD
403	2-176-929-01	SPRING LATCH LCD JE3
404	4-681-353-01	& CUSHION LATCH
405	4-681-354-01	& CUSHION LCD
406	4-681-355-01	& CUSHION HINGE
407	1-754-326-11	DUAL BAND ANTENNA (HBLACK)
408	2-067-071-01	BRACKET LCD L
409	2-179-000-01	HINGE L
411	2-178-999-01	HINGE R
412	2-067-070-01	BRACKET LCD R
415	1-963-380-11	HARNESS, LCD (JE5)
416	2-050-612-01	LCD SHIELDING
417	X-2022-040-1	HOUSING DISPLAY ASSY
418	-	KAPTON TAPE
601	A-1095-390-A	ASSY LCD(15.4 WXGA)(H)(S)
602	1-478-805-21	INVERTER UNIT
	1-478-976-11	INVERTER UNIT
B2	4-641-726-12	& SCREW (M2), SPECIAL HEAD
B4	4-641-726-41	SCREW (M2), SPECIAL HEAD
B5	4-665-205-01	SPECIAL FLAT HEAD (EG GRIP), M2
B14	4-673-655-01	SCREW +B
B15	4-644-637-01	& GRIP, M2 EG

△ [MA]

			AM		
Ref. No.	Part No.	Description	K35F	K33F	K34FP
419	2-345-245-61	ID LABEL (U)	●		
	2-345-245-71	ID LABEL (U)		●	
	2-345-245-81	ID LABEL (U)			●
	2-345-245-91	ID LABEL (U)			●

△ [MA]

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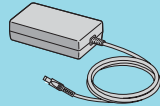
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**Confidential**

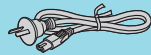
VGN-K31/K31B/K71B (J)  
PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)

## A-1. Accessories

**1001  
AC Adaptor**



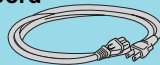
**1006  
Power Cord**



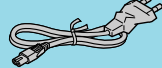
**1002  
Battery**



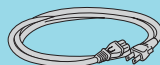
**1003  
Power-supply  
Cord**



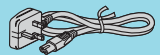
**1008  
Power-supply  
Cord**
















**1004  
Power Cord**



**1005  
AC Power Cord**



			J		AM								EU				AO		
			K71B	K31B	K31	K37	K35	K33	K33P	K35F	K33F	K34FP	K33Q	K315Z	K315S	K315B	K315M	K86P	K86SP
 [IMA]	△ 1001	1-478-390-81 \$ & ADAPTOR, AC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 [IMA]	△ 1002	A-8120-051-A \$ & BP-2NY(J)ASSY(S)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		A-8120-052-A \$ & BP-2NY(U)ASSY(S)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		A-8120-053-A \$ & BP-2NY ASSY(S)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 [IMA]	△ 1003	1-827-160-21 & POWER-SUPPLY CORD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 [IMA]	△ 1004	1-829-237-21 & CORD, POWER	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 [IMA]	△ 1005	1-823-935-51 & CORD, AC POWER	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 [IMA]	△ 1006	1-555-074-32 & CORD, POWER	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	△ 1008	1-827-481-21 & POWER-SUPPLY CORD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 [MA]	-	1-816-429-12 & (UK)...PHONE PLUG (GB)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 [MA]	-	2-318-527-01 & MANUAL(XP),INSTRUCTION	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 [MA]	-	2-320-669-11 & TROUBLESHOOTING GUIDE	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 [MA]	-	2-320-668-11 & SAFETY/REGULATIONS GUIDE	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 [MA]	-	2-345-502-01 & QUICK START	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 [MA]	-	2-348-397-01 & QUICK START (QAX)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
 [MA]	-	2-348-396-01 & QUICK START (LA)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	-	2-318-021-11 & GETTING STARTED BOOKLET	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	-	2-318-020-11 & (UK,Dutch)...HW SPECS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	-	2-318-020-21 & (German,Swiss)...HW SPECS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	-	2-318-020-31 & (French,Belgium,Swiss)...HW SPECS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	-	2-318-020-41 & (Italian)...HW SPECS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	-	2-318-020-51 & (Spanish)...HW SPECS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	-	2-318-020-61 & (Dutch,Belgium)...HW SPECS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

- This parts list contains two different types of parts.  
The first type is the parts that are common to all models.  
The other type is the parts that are different depending on each model.

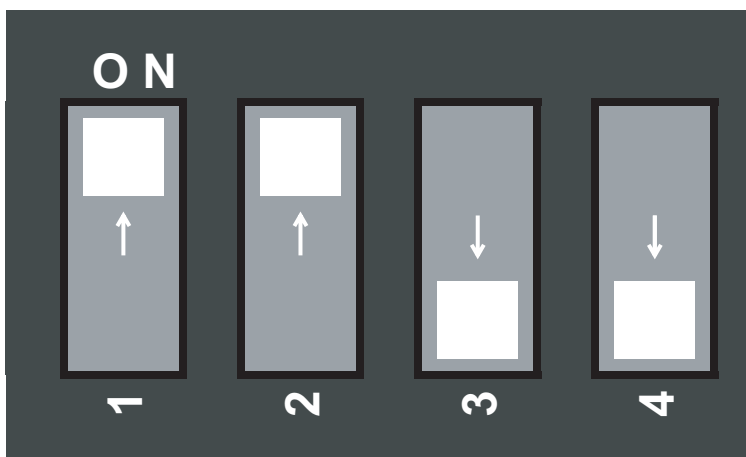
- この部品表は、機種共通の部品と、機種によって使い分けが必要な部品に分かれています。

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VGN-K31/K31B/K71B (J)  
PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)

## DIP Switch

- The DIP switch setting is following table.
- DIPスイッチの設定は下の表をご参照ください。



△ [COR]

# CHAPTER 5.

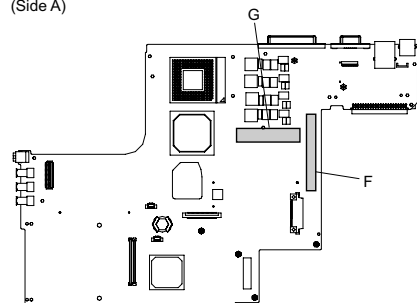
## OTHER

### 5-1. The Barcode Label

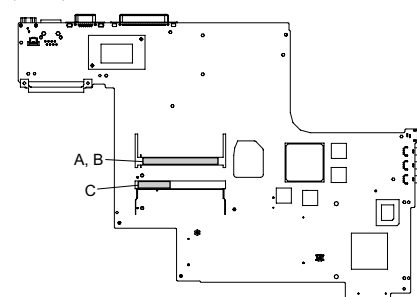
The hatched portion of the barcode is used as the repair data.

バーコードラベルの網掛け部は、修理データとして使用いたします。

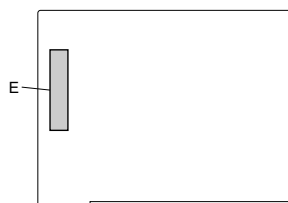
[ MBX-126 Board ]  
(Side A)



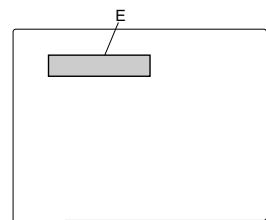
[ MBX-126 Board ]  
(Side B)



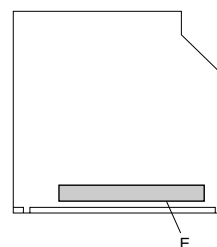
[ LCD 15.4-inch WXGA (High Brightness) (QDI) ]  
(Rear)



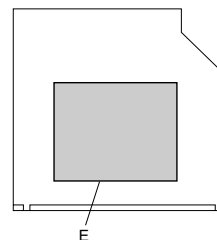
[ LCD 15.4-inch WXGA (Clear Black/  
High Brightness) (HI) ]  
(Rear)



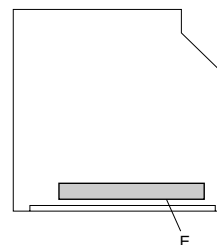
[ DVD+-RW Drive (Made by Pa) ]  
(Top)



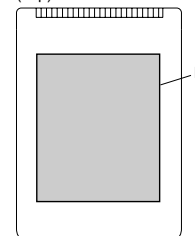
[ W-DVD Drive (Made by Pi) ]  
(Top)



[ Combo Drive (Made by QSI) ]  
(Top)



[ HDD ]  
(Top)



- A : Part No.
- B : Serial No.
- C : Revision No.
- D : Product Code
- E : Maker Barcode
- F : Global User ID (iLink)
- G : Mac Address
- [ ] : Barcode

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VGN-K31/K31B/K71B (J)  
PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)



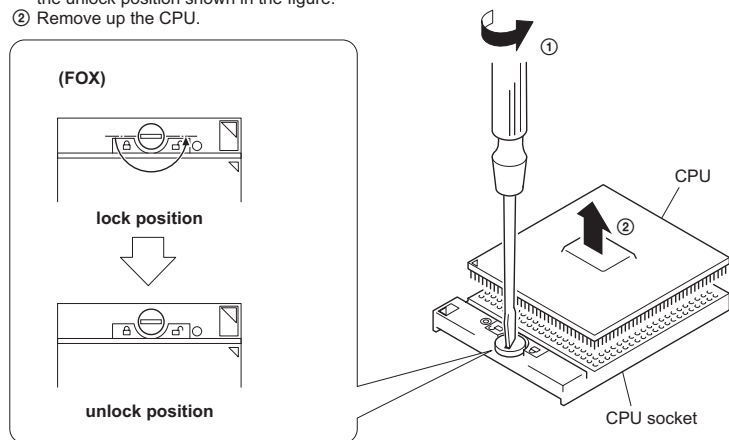
## 5-2. Replacing the CPU

Note: We have two kinds of CPU for this set, and either of them is used.  
Two kinds of CPU have differences in the lock position and the unlock position.

### 1. Socket configuration 1

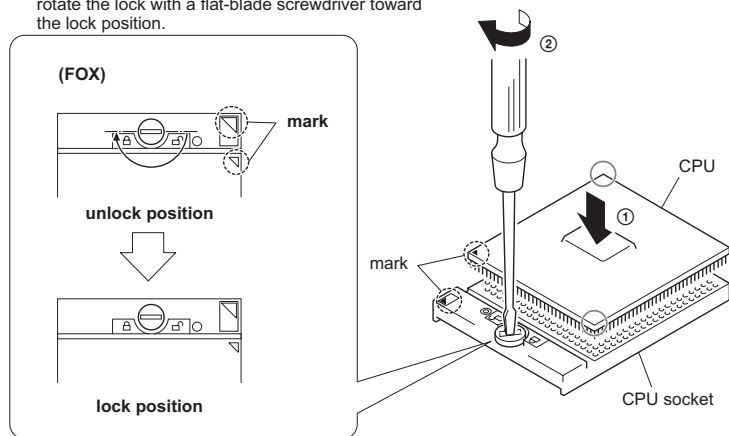
#### 1. How to remove the CPU

- ① Rotate the lock with a flat-blade screwdriver toward the unlock position shown in the figure.
- ② Remove up the CPU.



#### 2. How to install the CPU

- ① Position the mark on the CPU to the mark on the CPU socket and put in all pins to the holes on the CPU socket.
- ② Pressing two corners marked with ○ in the figure, rotate the lock with a flat-blade screwdriver toward the lock position.

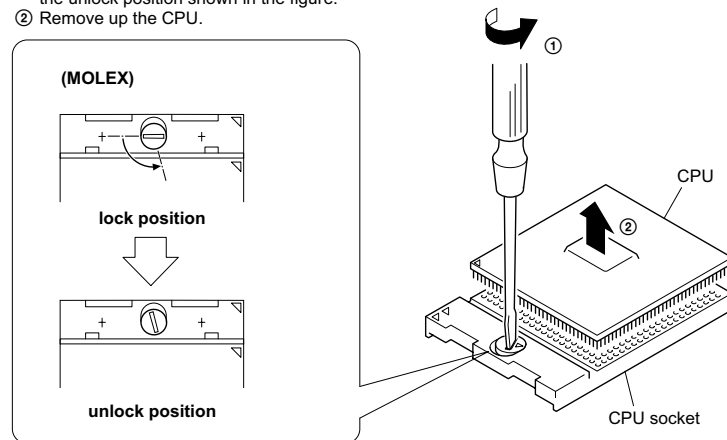


Note: Lock the CPU properly, or operation becomes unstable.

### 2. Socket configuration 2

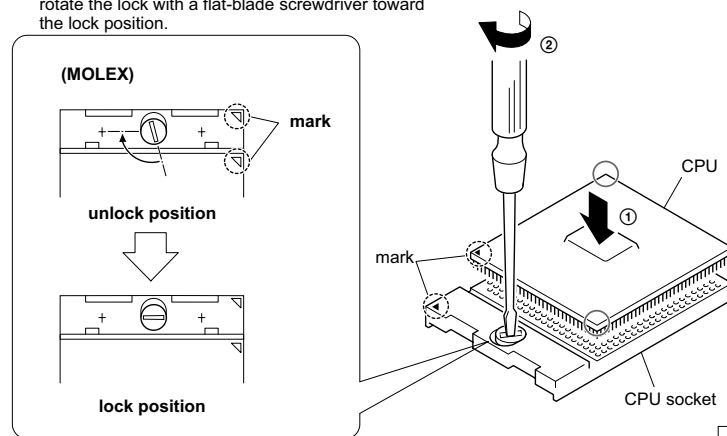
#### 1. How to remove the CPU

- ① Rotate the lock with a flat-blade screwdriver toward the unlock position shown in the figure.
- ② Remove up the CPU.



#### 2. How to install the CPU

- ① Position the mark on the CPU to the mark on the CPU socket and put in all pins to the holes on the CPU socket.
- ② Pressing two corners marked with ○ in the figure, rotate the lock with a flat-blade screwdriver toward the lock position.



Note: Lock the CPU properly, or operation becomes unstable.

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VGN-K31/K31B/K71B (J)  
PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
PCG-K315B/K315M/K315S/K315Z (EU)  
PCG-K86P/K86SP (AO)



VGN-K31/K31B/K71B (J)  
 PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
 PCG-K315B/K315M/K315S/K315Z (EU)  
 PCG-K86P/K86SP (AO)

# List of K Series (PCG & VGN) (As of April, 2005)

Service Manual	Model Name			
	J	AM	EU	AO
9-876-365-XX		PCG-K12FP PCG-K12P PCG-K13 PCG-K13F PCG-K13Q PCG-K14 PCG-K15 PCG-K15F PCG-K17	PCG-K115B PCG-K115M PCG-K115S PCG-K115Z PCG-K195BP PCG-K195HP	PCG-K64 PCG-K64S PCG-K66P PCG-K66SP
9-876-371-XX	VGN-K30 VGN-K30B VGN-K50B VGN-K70B	PCG-K20P PCG-K24FP	PCG-K215B PCG-K295HP	PCG-K74 PCG-K74S PCG-K76P PCG-K76SP
9-876-373-XX		PCG-K23 PCG-K23F PCG-K23Q PCG-K25 PCG-K25F PCG-K27	PCG-K215M PCG-K215S PCG-K215Z	
9-876-388-XX	VGN-K31 VGN-K31B VGN-K71B	PCG-K33 PCG-K33F PCG-K33P PCG-K33Q PCG-K34FP PCG-K35 PCG-K35F PCG-K37	PCG-K315B PCG-K315M PCG-K315S PCG-K315Z	PCG-K86P PCG-K86SP

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## Revision History

Suffix	Ver.	Date	Contents	QM No.
-01	Ver. 1	2004.10.04	First Edition	
-02	Ver. 2	2004.10.18	△ <sub>1</sub> Front Page, Page 1-1, Page 4-1, Page 4-3 to 4-5, Page 4-7, Page 4-11 to 4-16, Page 5-1, Back Cover	N2004_113AK
-03	Ver. 3	2004.10.20	△ <sub>2</sub> Page 1-1, Page 4-4, Page 4-5, Page 4-7, Page 4-16	N2004_119CK
-04	Ver. 4	2004.11.15	△ <sub>3</sub> Page 4-6, Page 4-7	N2004_130CK
-05	Ver. 5	2004.11.29	△ <sub>4</sub> Front Page, Page 1-1, Page 4-1, Page 4-3, Page 4-5, Page 4-7, Page 4-15 to Page 4-16, Back Cover	N2004_133AK
-06	Ver. 6	2004.12.08	△ <sub>5</sub> Page 4-2, Page 4-4, Page 4-5, Page 4-8, Page 4-9	N2004_137CK
-07	Ver. 7	2005.01.12	△ <sub>6</sub> Page 4-4, Page 4-5	N2004_144CK
-08	Ver. 8	2005.05.10	△ <sub>7</sub> Page 4-17	N2005_005CK
<Remarks>				

[Confidential]

VGN-K31/K31B/K71B (J)  
 PCG-K33/K33F/K33P/K33Q/K34FP/K35/K35F/K37 (AM)  
 PCG-K315B/K315M/K315S/K315Z (EU)  
 PCG-K86P/K86SP (AO)